3M
Bair Paws™
Model 875 Warming Unit
Service Manual

Warning: Electrical Shock Hazard. There are electrically live parts within the warming unit when it is connected to a power source, even when the handheld temperature controller is in the OFF position.

Please forward to Biomedical Engineering Department

Avertissement : risque d'électrocution. Certaines pièces à l'intérieur de l'appareil sont sous tension lorsque ce dernier est branché sur une source d'alimentation, même si le régulateur de température manuel est à l'arrêt.

À transmettre au département d'ingénierie biomédicale

Warnhinweis: Es besteht Stromschlaggefahr. Wenn das Erwärmungsgerät an das Stromnetz angeschlossen ist, stehen bestimmte elektrische Komponenten auch dann unter Strom, wenn die Schalter auf AUS gestellt ist.

Bitte weiterleiten an medizintechnische Abteilung

Bair Paws™

3M

Bair Paws

Model 875 Warming Unit Service Manual

(GB) Model 875 Warming unit service manual

(FR) Appareil de réchauffement, modèle 875 Manuel d'entretien

(DE) Erwärmungssystem Modell 875 Wartungshandbuch

Bair Paws™

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Introduction to the 3M™ Bair Paws™ Patient Adjustable Warming System

The 3M™ Bair Paws™ patient adjustable warming system consists of the Model 875 forced-air warming unit and disposable warming gowns. The Bair Paws Model 875 warming unit can provide comfort warming and prewarming to patients in preoperative settings. In postoperative settings the warming unit can provide comfort warming.

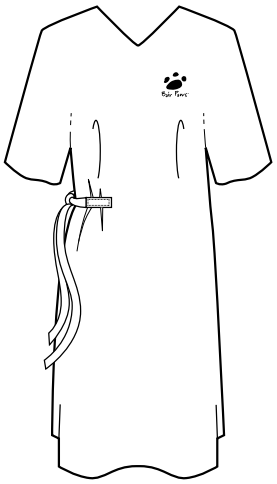
This manual includes operating instructions and unit specifications for the Model 875 warming unit. Please refer to the Instructions for Use for more information about the gowns. The Bair Paws system should only be used by trained medical professionals.

Bair Paws Model 875 Warming Unit

The Bair Paws Model 875 warming unit has the following key elements: a blower, a heating element, and a handheld temperature controller. The warming unit delivers warmed air through a hose that is connected to a port in a Bair Paws gown. The patient can adjust the air temperature and airflow using the temperature controller.

Bair Paws Warming Gowns

The Bair Paws single-use warming gown completely covers and surrounds the patient except for the head, hands and feet. The gown has an integral, channeled insert that delivers ambient and warm air through small perforations to warm the patient. Air channels and hose ports enable comfort and prewarming with a Bair Paws 800 series warming unit or clinical warming with a 3M™ Bair Hugger™ 500 or 700 series temperature management unit. The gown also has fastener strips on each shoulder that provide easy access to the patient's arms and chest. The Bair Paws warming gowns are latex-free and are sized for pediatric and adult patients.



For additional information on Bair Paws gowns, or other accessories visit us online at bairpaws.com.

Important Information about the Bair Paws Model 875 Warming Unit

Indications

The Model 875 warming unit is indicated for patient warming. This warming unit has been designed for use with the Bair Paws warming gowns in all preoperative and postoperative settings for pediatric and adult patients.

Definition of Symbols

The following symbols may appear on the product, on the exterior packaging, or in the product labeling.

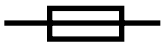
Power on

Increase temperature and airflow

Over-temperature

Temperature control

An equipotentiality plug (grounded) conductor other than a protective earth conductor or a neutral conductor, providing a direct connection between electrical equipment and the potential equalization busbar of the electrical installation. Please consult IEC 60601-1; 2005 for requirements.


Fuse

CAUTION

Dangerous voltage

Type BF equipment (patient applied)

VAC
Voltage, alternating current (AC)

Protective earth ground

Ground

No free hosing

Date of manufacture

Manufacturer

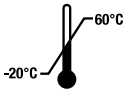
This system is subject to European WEEE Directive 2002/96/EC. This product contains electrical and electronic components and must not be disposed of using standard refuse collection. Please consult local directives for disposal of electrical and electronic equipment.

Consult instructions for use

Follow instructions for use

Recycle to avoid environmental contamination. This product contains recyclable parts. For information on recycling, please contact your nearest 3M Service Center for advice.

Keep dry



Temperature limit

Explanation of Signal Word Consequences

⚠ WARNING:

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION:

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE:

Indicates a situation which, if not avoided, could result in property damage only.

Contraindication

To reduce the risks associated with thermal energy:

- Do not apply heat to lower extremities during aortic cross-clamping as thermal injury may occur if heat is applied to ischemic limbs.

⚠ WARNING:

1. Do not use a forced-air warming device over transdermal medications; increased drug delivery, patient death, or injury may occur.
2. To reduce the risks associated with thermal energy hazards:
   - Do not continue use of the unit if the yellow Over-temp indicator light illuminates or an audible alarm sounds; contact a biomedical technician or call 3M Patient Warming technical service.
   - Use only the Bair Paws warming gowns with this warming unit.
   -
     Do not warm patients with the warming unit's hose alone. Always connect the hose to a Bair Paws warming gown before providing patient warming.

- Do not allow the patient to lie on the warming unit hose or allow the hose to contact the patient's skin during patient warming.
- Do not connect a Bair Paws gown to the warming unit if it has been cut or damaged.
- Monitor the patient's temperature and cutaneous response of patients who are incapable of reacting, communicating and/or who are without a sense of feeling every 10-20 minutes or per institutional protocol and monitor the patient's vital signs regularly. Adjust air temperature or discontinue therapy when the therapeutic goal is reached or if vital sign instability occurs. Notify physician of vital sign instability immediately.
- Do not leave pediatric patients unattended while warming with a Bair Paws 800 series warming system.

3. To reduce the risks associated with entanglement:
   - Position the temperature controller cord and the hose away from the patient's neck or shoulders.
   - Do not allow pediatric patients to handle or adjust the temperature controller without supervision.
4. Do not use a Bair Paws gown to transfer or move the patient; injury may result.
5. To reduce the risks associated with hazardous voltage and fire:
   - Do not modify or service this device, and do not open the warming unit case – there are no user- serviceable parts. Contact 3M Patient Warming Technical Support at 1-800-733-7775.
   - Examine the warming unit for damage before each use. Never operate the equipment if the warming unit, power cord, plug, or any component is visibly damaged. Contact 3M Patient Warming Technical Support at 1-800-733-7775.
   - Keep power cord visible and accessible at all times. The plug on the power cord serves as the disconnect device. The wall socket outlet shall be as close as practical and shall be easily accessible.
   - Use only the power cord specified for this product and certified for the country of use.
   - Do not allow the power cord to get wet.
   - Remove the warming unit from service and contact 3M Patient Warming Technical Support at 1-800-733-7775 if the warming unit is subjected to a large fluid spill (e.g. I.V. or blood bag).
   - This equipment must only be connected to a supply mains with protective earth.
   - Connect power plug only to receptacles marked "Hospital Only" or "Hospital Grade".
6. To reduce the risks associated with cross contamination:
   - Do not use the warming unit in an operating room.
   - Gowns are intended for single-use only.

7. To reduce the risks associated with fire:
   - Always follow standard safety protocols when using high intensity heat sources near a Bair Paws gown.

⚠ CAUTION:

1. To reduce the risks associated with impact or property damage:
   - Initiate patient warming only after the warming unit is safely placed on a hard surface or securely mounted.
2. To reduce the risks associated with environmental contamination:
   - Follow applicable regulations when disposing of this device or any of its electronic components.
3. To reduce the risks associated with thermal energy:
   - Do not cut the gown, and do not connect the gown to a warming unit if the fabric is torn or cut; air channels could be damaged.
   - Avoid rolling, gathering, bunching or compressing the air-channel insert of the gown as this can occlude airflow and reduce warming of the patient. Extend the insert to its full length for optimal heat transfer when connected to a warming unit.
4. To reduce the risk associated with impact or tripping:
   - Do not use the Bair Paws pediatric gown unless the patient is over 102 cm (40 inches) tall.
5. To reduce the risks associated with pinching or device damage of the suction wall mount adapter:
   - Only hold the front of the adapter when increasing/decreasing the expander.
   - Overtorquing the suction wall mount adapter may cause device damage.

NOTICE:

1. The Bair Paws warming unit meets the international electronic interference requirements. If radio frequency interference with monitoring equipment occurs, connect the warming unit to a different power source.
2. Federal law (USA) restricts this device to sale by or on the order of a licensed healthcare professional.
3. Do not place the warming unit on a soft or uneven surface, such as a bed; this may cause the air intake to become blocked, compromising the unit's performance.
4. Do not immerse any part of the Bair Paws warming unit in liquid while cleaning it.
5. Do not use a dripping wet cloth to clean the warming unit.
6. Do not use harsh solvents to clean the warming unit.
7. To the full extent permitted by law, the manufacturer and/or importer declines all responsibility for thermal injury resulting from the unit being used in conjunction with products other than Bair Paws warming gowns.

Proper Use and Maintenance

Arizant Healthcare Inc., a 3M company assumes no responsibility for the reliability, performance, or safety of the unit if any of the following events occur:

- Modifications or repairs are performed by unqualified personnel.
- The warming unit is used in a manner other than that described in the Operator's Manual or Service Manual.
- The warming unit is installed in an environment that does not meet the appropriate electrical and grounding requirements.

Read Before Servicing Unit

All repair, calibration, and servicing of the Model 875 warming unit must be performed by qualified, medical equipment service technicians who are familiar with good practice for medical device repair. If the warming unit does not require the manufacturer's attention, 3M Patient Warming will ship replacement parts to your location. Perform all repairs and maintenance in accordance with the instructions provided with the replacement parts.

Safety Inspection

Perform a safety inspection after making repairs to the Model 875 unit and before returning the unit to service. A safety inspection should include calibrating the operating temperature settings and testing the over-temperature detection function as described in the *Service Procedures* section as well as testing for leakage current and continuity check on safety ground.

Preparing the Bair Paws Model 875 Warming Unit for Use

Before using the warming unit, make sure that it is safely placed on a flat, hard surface such as a table, or securely mounted on a wall, IV pole, suction wall mount adapter, or bedrail.

⚠ **CAUTION:** Do not place the warming unit on a soft or uneven surface, such as a bed; this may cause the air intake to become blocked, compromising the unit's performance.

A wall-mount bracket is shipped with every warming unit; the brackets for mounting the warming unit to an IV pole or a bedrail are available separately. Please contact your local sales representative or call 3M Patient Warming Customer Service at 1-800-228-3957 for more information about ordering mounting brackets.

Installing the Wall-mount Bracket

1. Using the four wall-screw holes on the wall-mount bracket (see Figure 1) as a template, mark the position for the four wall anchors on the desired wall. The use of a level is recommended.
2. Install four suitable wall anchors at the marked positions. If using the provided self-drilling wall anchors, use a Phillips screwdriver to screw the anchors into position. If installing into industrial-grade plasterboard, predrilling may be required.
3. Hold the wall-mount bracket in position against the wall.
4. Screw the four provided screws through the wall-mount holes and into the wall anchors.

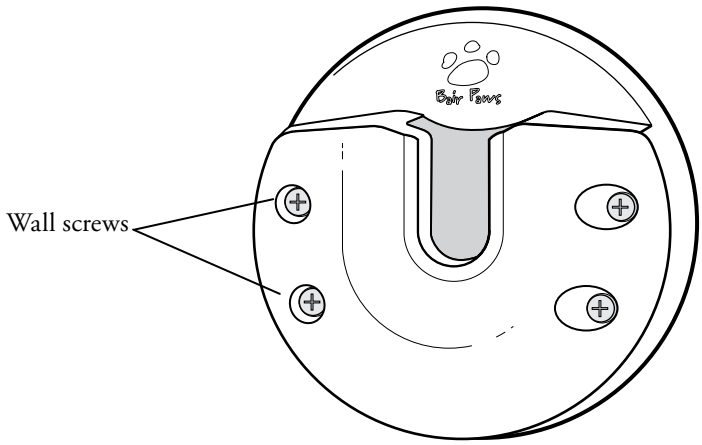


Figure 1. Front view of wall-mount bracket.

Placing the Warming Unit on the Wall-mount Bracket

1. Snap the warming unit into position by sliding the clip on the back of the warming unit into the groove of the wall-mount bracket. The assembly will click when the clip is fully seated in the wall-mount bracket.
2. Lift the warming unit straight up to remove it from the wall-mount bracket.

   NOTE: It may be necessary to gently strike the case bottom in an upward fashion with the palm of your hand to release the clip from the wall-mount bracket.

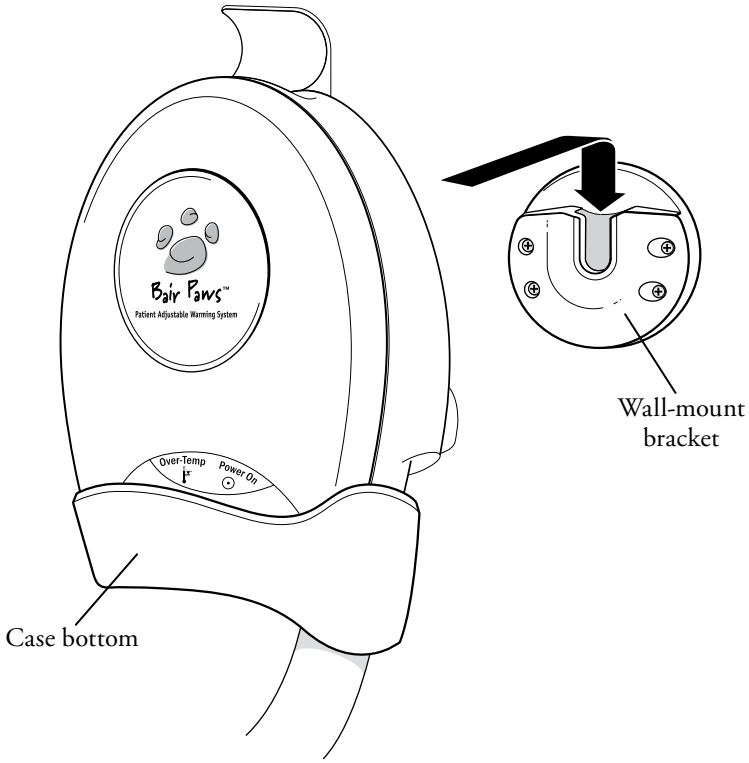


Figure 2. Inserting the warming unit into the groove of the wall-mount bracket.

Mounting the Warming Unit on an IV Pole

CAUTION: To prevent tipping, mount the Model 875 warming unit on an IV pole at a height that ensures stability. We recommend mounting the warming unit no higher than 44 in. (112 cm) from the floor on an IV pole with a minimum wheelbase radius of 14 in. (35.6 cm). Failure to do so may result in IV pole tipping, leading to potential catheter site trauma and other patient injuries.

1. Position the IV pole-mount at the desired height on the IV pole.
2. Turn the clamp knob on the IV pole-mount clockwise to tighten the clamp to the pole (Figure 3).
3. Snap the warming unit into position by sliding the clip on the back of the warming unit into the groove of the IV pole-mount. The assembly will click when the clip is fully seated in the IV pole-mount.

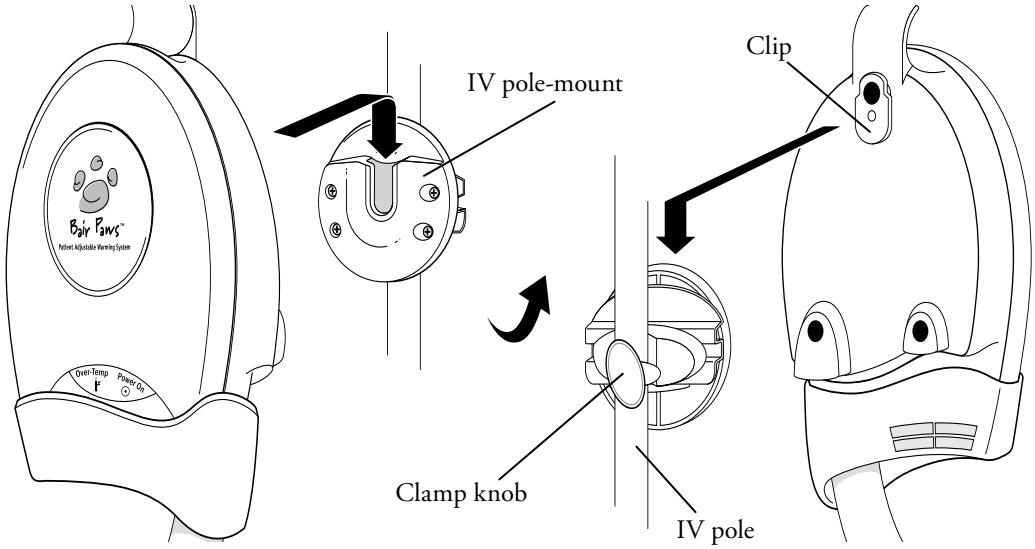


Figure 3. Installing a warming unit onto an IV pole.

Mounting the Warming Unit on a Bedrail

1. Slide the clip on the back of the warming unit into the groove of the rail-mount bracket. The assembly will click when the clip is fully seated in the rail-mount.
2. Hang the Model 875 warming unit on the bedrail by the hooks on the rail-mount.
3. Wrap the safety strap around the bedrail and connect the end to the fastener on the strap. The safety strap will prevent the warming unit from falling if the unit is accidentally dislodged from the bedrail.

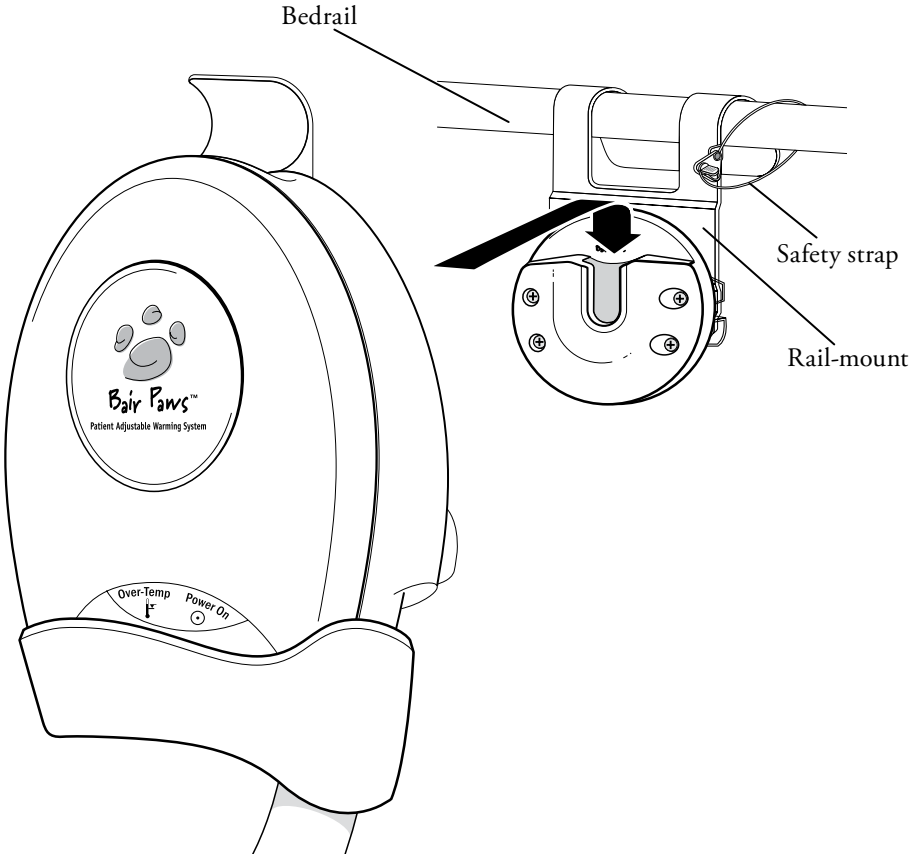


Figure 4. Mounting the warming unit on a bedrail using the rail-mount.

Mounting the Warming Unit with a Rail-mount to the Wall

CAUTION: The rail-to-wall bracket is intended for use only with a Bair Paws 800 series warming unit.

Note: A minimum of two wall anchors must be used to secure the rail-to-wall bracket to the wall. Additional wall anchors (up to a total of four) can be used for extra support.

1. Using the wall-screw holes on the rail-to-wall bracket (see Figure 5) as a template, mark the position for the two wall anchors on the desired wall. The use of a level is recommended.
2. Install two suitable wall anchors at the marked position. If using the provided self-drilling wall anchors, use a Phillips* screwdriver to screw the anchors into position. If installing into industrial-grade plasterboard, predrilling may be required.
3. Hold the rail-to-wall bracket in position against the wall.
4. Screw the two provided screws through the bracket holes and into the wall anchors.
5. If the warming unit is not already connected to the rail-mount, slide the clip on the back of the warming unit into the groove of the rail-mount. The assembly will click when the clip is fully seated in the rail-mount.
6. Hook the warming unit with the attached rail-mount to the rail-to-wall bracket as depicted in Figure 5.
7. Lift the warming unit straight up to remove it from the rail-to-wall bracket.

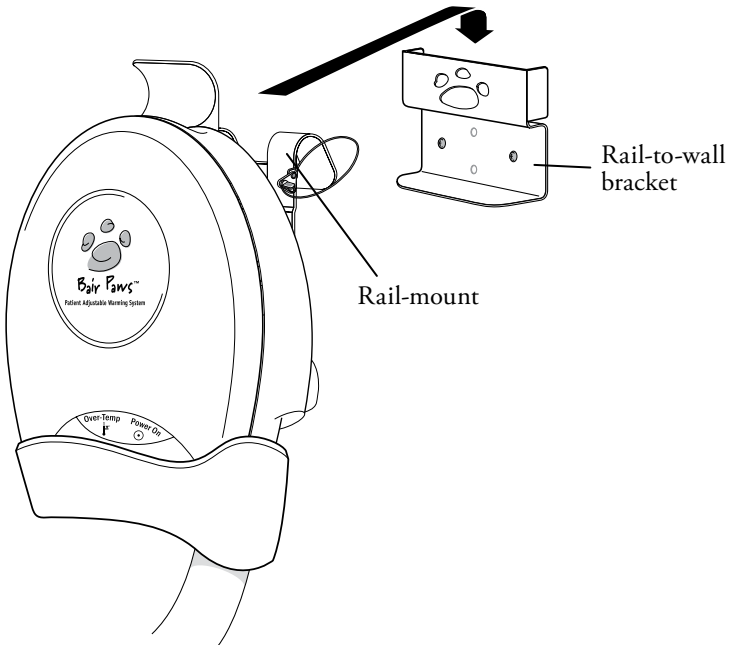
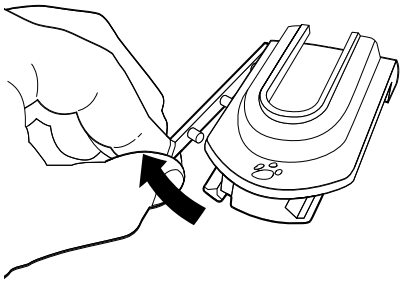


Figure 5. Placing the warming unit with a rail-mount onto the rail-to-wall bracket.

*Phillips is a trademark of Phillips Screw Company

Mounting the Warming Unit with a Suction Wall Mount Adapter

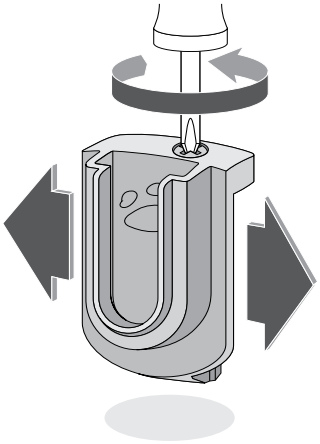
1. Slide the Bair Paws suction wall mount adapter into the suction wall bracket. If the adapter is too large to fit, remove the expand spacer.



2. Increase the expander on the Bair Paws suction wall mount adapter by gently turning the screw counter clockwise until the adapter is securely fastened (torque < 10 in-lbs). The adapter should not be able to move in any direction within the suction wall bracket once fastened.

⚠ **CAUTION:** Overtorquing may cause device damage.

⚠ **WARNING:** To prevent pinching, only hold the front of the adapter when increasing decreasing the expander.



3. Slide the Bair Paws 875 warming unit into the suction wall mount adapter.

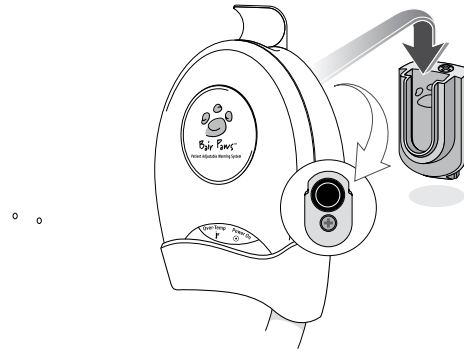


Figure 6. Mounting the warming unit with a suction wall mount adapter.

Using the Handheld Temperature Controller

After the hose has been connected to the Bair Paws gown, the patient can adjust the air temperature and airflow by turning the knob on the temperature controller. The following list explains how the unit will operate when the knob is placed in the specified position shown in the figure.

- When the knob is in position A, the warming unit is OFF.
- As the knob is rotated from position A to B, the knob clicks and the warming unit turns on LOW AIRFLOW and LOW HEAT.
- As the knob rotates clockwise, the blower's airflow and temperature increases.
- At position C, the warming unit is on HIGH HEAT and HIGH AIRFLOW. The air temperature will stabilize at 43±3°C (109±5.4°F).

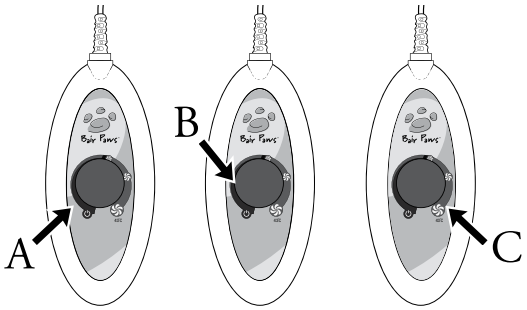


Figure 7. Handheld controller

Using the Holder for the Handheld Temperature Controller

Store the handheld temperature controller in the controller holder to help prevent cord clutter around the patient and accidental damage to the warming unit.

1. Press the holder onto the warming unit hose so it is within the patient's reach.

⚠ **WARNING:**

To reduce the risks associated with thermal energy and entanglement:

- Do not leave pediatric patients unattended while warming with a Bair Paws 800 series warming system.
- Do not allow pediatric patients to handle or adjust the temperature controller without supervision.

2. Slide the temperature controller into the holder. It should fit securely with the dial facing the patient.

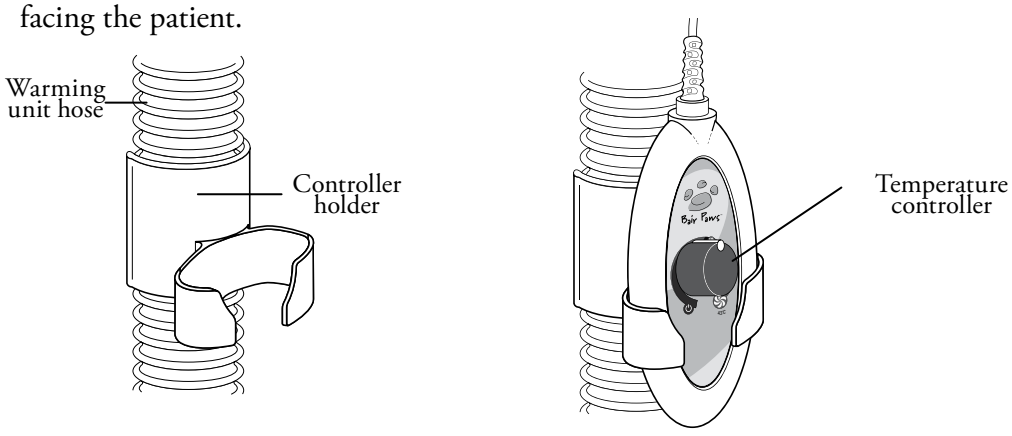


Figure 8. Using the holder for the handheld temperature controller

Service Procedures

Calibrating the Operating Temperatures

Service Frequency

- Always recalibrate after performing service procedures.
- Routinely calibrate every 6 months.

Tools/Equipment Needed

- Model 90055 Temperature Test Kit (thermocouple included).
- 2-mm flat-headed screwdriver.
- Medium Phillips screwdriver.
- Calibrated thermometer.

⚠ WARNING

- The Model 875 handheld temperature controller must be at its maximum (warmest) setting when calibrating; otherwise, temperature settings may be inaccurate and patient injury could result.
- Do not calibrate the Model 875 warming unit above 43°C; patient injury may result.

⚠ CAUTION

- Perform all calibrations of the Model 875 warming unit using a Model 90055 Temperature Test Kit.
- Perform calibration testing at an ambient temperature similar to the area where the Model 875 warming unit will be used.
- The Model 875 warming unit is intended for use in an ambient environment between 18 and 26°C (65 and 79°F).

Notes

The Model 90055 Temperature Test Kit simulates the operating characteristics of a Bair Paws gown when used with the Bair Paws forced-air warming unit.

When using the Model 90055 Test Kit, take temperature readings using a calibrated thermometer that can accept a male, subminiature connector and read a “K” type thermocouple (e.g., a Fluke Model 52 K/J Thermometer). If the test unit’s connector does not fit your thermometer, remove the connector from the test unit and attach a connector that fits your meter. Be certain to observe polarity.

3M Patient Warming assumes no responsibility for the reliability, safety, or performance of the Model 875 warming unit if calibration tests or adjustments are made in any manner other than those described here. Improper measurement or adjustment of the normal operating temperature for the Model 875 unit could result in patient exposure to temperatures outside of the indicated range and may lead to patient injury.

Method

1. Turn the warming unit ON and select the maximum airflow and temperature by turning the temperature controller completely clockwise (refer to position C in Figure 6).
2. Press the clip buttons on the hose end and insert the hose end into the temperature test kit.
3. Allow the system to warm 10 minutes before starting the calibration.
4. Extend the hose straight to its full length. Remove the two screws that attach the case bottom (dark purple) to the warming unit and slide it down the hose.
5. Ensure the thermocouple is inserted through the grommet of the cylindrical test kit body. The thermocouple tip should be approximately centered in the cross section of the test kit (see Figure 9).

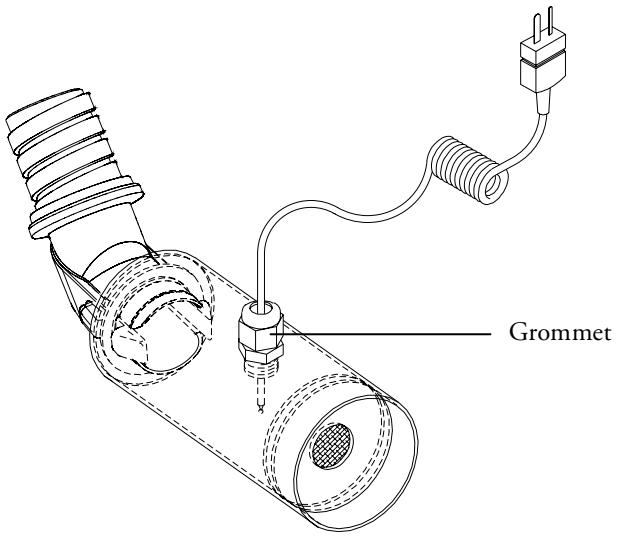


Figure 9. Test kit used to calibrate the Model 875 warming unit.

6. Insert a flat-headed, 2-mm screwdriver into the calibration access hole to a depth of approximately 1/2 inch (see Figure 10). Turn the pot very slowly until the steady state temperature reading is 43°C. Wait at least 5 minutes to ensure steady state (43.0±0.5°C).

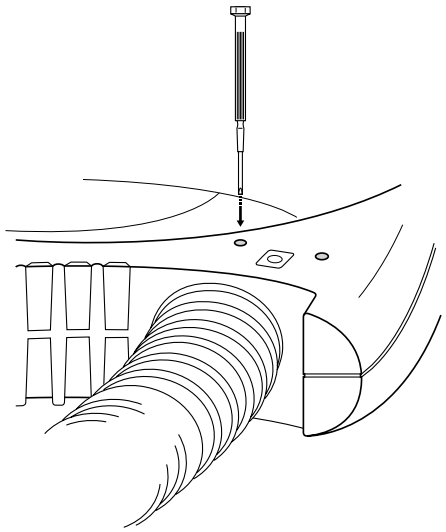


Figure 10. Calibration access hole to adjust pot.

7. Proceed to the next section to test the Over-temperature (OT) circuit.

Testing the Over-temperature (OT) Circuit

Service Frequency

Test every 6 months.

Tools/Equipment Needed

- Model 90055 Temperature Test Kit (thermocouple included).
- Small screwdriver.
- Medium Phillips screwdriver.
- Calibrated thermometer.

⚠ **CAUTION**

- Perform all over-temperature circuit testing of the Model 875 warming unit using a Model 90055 Temperature Test Kit.
- Perform all over-temperature circuit testing at an ambient temperature similar to the area where the Model 875 warming unit will be used.
- The Model 875 warming unit is intended for use in an ambient environment between 18 and 26°C (65 and 79°F).

Method

NOTE: The OT threshold temperature cannot be adjusted. If problems occur, contact 3M Patient Warming customer service.

1. If continuing from *Calibrating the Operating Temperatures*, skip to step 6; otherwise, proceed to the next step.
2. Turn the warming unit ON and select the maximum airflow and temperature setting by turning the controller knob completely clockwise (refer to position C in Figure 6).
3. Press the clip buttons on the hose end and insert the hose end into the temperature test kit.
4. Allow the system to warm 10 minutes before starting the test.
5. Extend the hose straight to its full length. If not already done, remove the two screws that attach the case bottom (dark purple) to the warming unit and slide it down the hose.
6. With a small screwdriver continuously press the OT test button (see Figure 11) for the duration of the over-temperature test.* When functioning properly, the "Over-Temp" indicator will illuminate and an audible alarm will sound. The peak test kit temperature will be below 56°C, and the heater will switch off within two minutes. If this does not occur, return the unit to 3M Patient Warming for service.

   *Pressing the OT test button places the heater in a full-on, unregulated condition; therefore, the unit may become slightly warm to the touch.

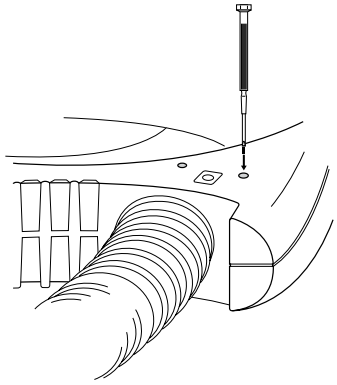


Figure 11.
OT test button hole

7. Turn the temperature controller to the OFF position to reset the alarm (position A, Figure 7). Wait ten seconds.
8. Turn the temperature controller to position B (Figure 7). After waiting several minutes, the thermocouple temperature should approach the ambient temperature.
9. Reposition the case bottom with the filter and attach to the warming unit with two screws.

Replacing the Filter

Service Frequency

Every six months.

Tools/Equipment Needed

- Medium Phillips screwdriver
- Replacement filters (available from 3M Patient Warming Customer Service)

Method

1. Disconnect the warming unit from the power source.
2. Remove the two screws that attach the case bottom (dark purple) to the warming unit.
3. Slide the case bottom down the hose, remove the used filter, and replace with a new filter.
4. Reposition the case bottom (with the new filter) and attach to the warming unit with the two screws.
5. Reconnect the warming unit to the power source and turn the temperature controller ON to make sure the warming unit functions properly before returning to service.

NOTE: Verify calibration and test the OT circuit if it has been longer than six months since it was last serviced.

Replacing the Temperature Controller and/or Hose

Tools/Equipment Needed

- Small Phillips screwdriver.
- Medium Phillips screwdriver.

Method

1. Disconnect the warming unit from the power source.
2. Remove the two screws that attach the case bottom (dark purple) to the warming unit, and slide the case bottom down the hose.
3. Remove the three screws on the back of the warming unit that hold the enclosures together (see Figure 12).
4. Flip the unit over and remove the cover. This will expose the control board.
5. Gently pull the end-of-hose coupler out of the warming unit by a few inches to expose the controller wire.
6. Disconnect the controller wire from the control board. You will have to depress the tab on the controller wire plug to free it from its port on the control board.

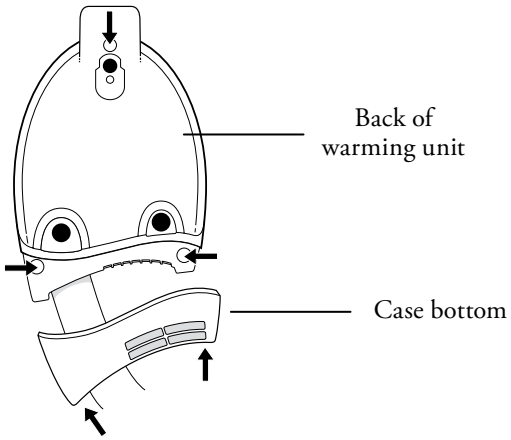


Figure 12. Removing the enclosure screws.

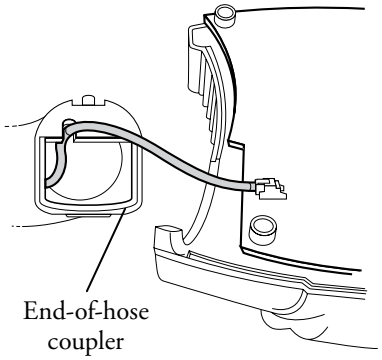


Figure 13. Pull the end-of-hose coupler out of the warming unit.

7. To replace the hose or controller remove the two screws that connect the wire collar to the mid-hose coupler and pull the wire out through the dedicated hole (see Figure 14). Note: If you are replacing both the hose and controller do not remove the wire collar from the hose. Proceed to Step 8.

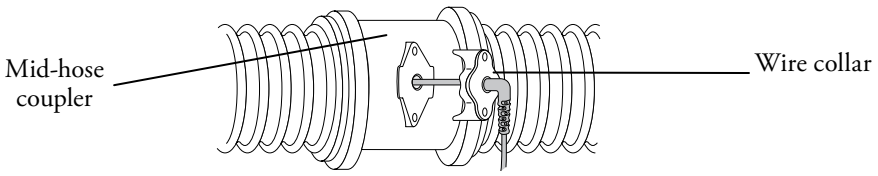


Figure 14. Removing the existing controller wire from the hose.

8. Using either a replacement temperature controller assembly and/or a replacement hose, thread the controller wire through the dedicated hole. Hold the hose vertical and let the wire plug drop through to the end-of-hose coupler.
9. Secure the wire collar to the mid-hose coupler with two screws.
10. If replacing the hose, transfer the case bottom onto the new hose.
11. Plug the controller wire into the port on the control board.
12. Making sure that the controller wire passes through the clearance slot, insert the end-of-hose coupler into the warming unit (see Figure 15).

Note: Ensure the end-of-hose coupler ridge is seated under the control board.

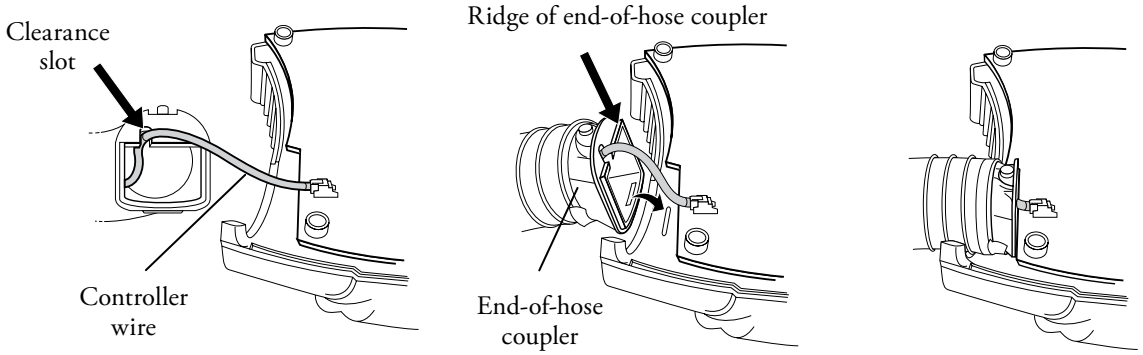


Figure 15. Inserting the end-of-hose coupler into the warming unit.

13. Replace the cover.
14. Install the three screws on the back of the unit.
15. Reposition the case bottom with the filter and attach to the warming unit with two screws.
16. Plug the unit into a proper power source.
17. Calibrate unit and test OT circuit.

Replacing the Fuses

Tools/Equipment Needed

- Small Phillips screwdriver
- Medium Phillips screwdriver

Method

1. Disconnect the warming unit from the power source.
2. Remove the two screws that attach the case bottom (dark purple) to the warming unit, and slide the case bottom down the hose.
3. Remove the three screws on the back of the warming unit that hold the enclosures together (see Figure 12).
4. Flip the unit over and remove the cover. This will expose the control board.
5. Remove and replace each with the same fuse rating.

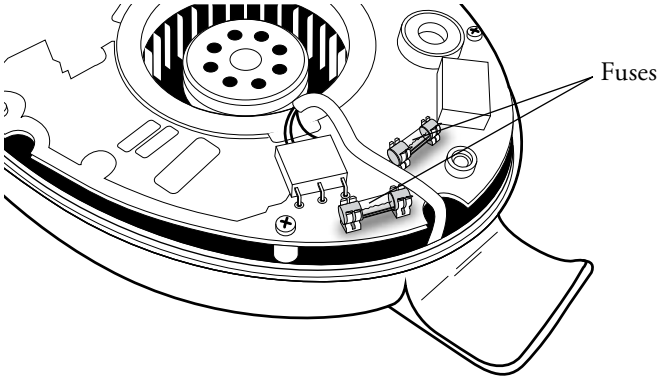


Figure 16: Removing the fuses

6. Replace the cover.
7. Install the three screws on the back of the unit.
8. Reposition the case bottom with the filter and attach to the warming unit with two screws.
9. Plug the unit into a proper power source.
10. Calibrate unit and test OT circuit.

Replacing the Power Cord

Tools/Equipment Needed

- Medium Phillips screwdriver.

Method

1. Disconnect the warming unit from the power source.
2. Loosen the two screws that secure the cord retainer to the warming unit. The screws should be backed out by 1/8" to allow the removal of the cord retainer (Figure 17).
   NOTE: Do not back the cord retainer screws out completely.
3. Rotate the cord retainer to free it from the screw heads and slide it off of the cord (Figure 18).
4. Pull the plug of the old cord out of the unit. Dispose of the old cord.
5. Insert the plug of the new cord into the unit.
6. Position the cord retainer onto the new cord.
7. Secure the cord retainer to the warming unit with the two screws.
8. Reconnect the warming unit to the power source and turn the temperature controller ON to make sure the warming unit functions properly before returning to service.

Figure 17. View of a fully installed cord retainer.

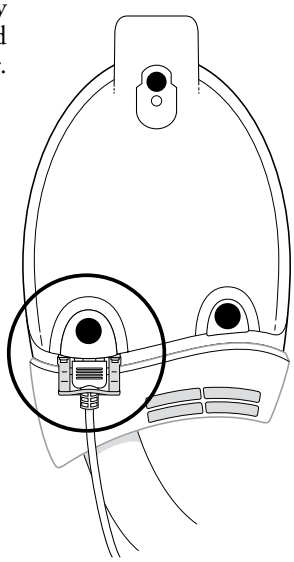
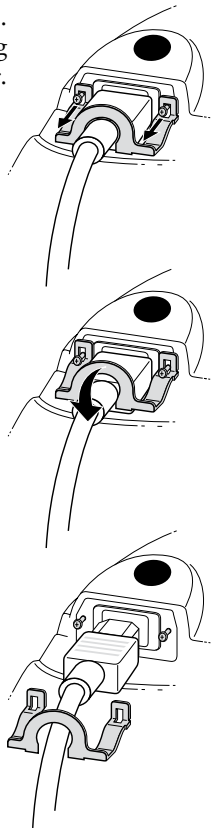


Figure 18. Uninstalling the cord retainer.



General Maintenance

Calibrating the Operating Temperatures

Calibrate the operating temperatures of the Model 875 warming unit (1) after performing a service procedure and (2) routinely every six months. Perform the calibration in a similar environment temperature to where the Model 875 will be used. You will need a Bair Paws temperature test kit Model 90055 to perform the calibration. Calibration instructions are included with the test kit.

Replacing the Filter

Replace the filter every six months or sooner if necessary. To order a replacement filter, contact 3M Patient Warming customer service using either of the telephone numbers listed on page 22. Instructions for replacing the filter will be included with the replacement filter.

Cleaning the Warming Unit, Handheld Controller, Hose, and Accessories

NOTICE:

To avoid device damage:

- Do not immerse any part of the Bair Paws warming unit in liquid.
- Do not use a dripping wet cloth to clean the warming unit.
- Do not use harsh solvents to clean the warming unit.

Method

1. Disconnect the warming unit from the power source before cleaning.
2. Wipe the cabinet, the temperature controller, and the outside of the hose with a damp, soft cloth and a mild cleaning solution or antimicrobial spray.
3. Dry with a separate soft cloth.

Technical Support and Customer Service

U.S. Customer Service

TEL:

800-228-3957

Outside of the USA

Contact your local 3M Patient Warming representative.

When You Call for Technical Support

Please be ready to give the Technical Support Representative the serial number of your Bair Paws warming unit. The serial number is located on the back of the unit.

Repair and Exchange

Call 3M Patient Warming customer service if your Model 875 warming unit requires service. A customer service representative will give you a Return Authorization (RA) number. Please use this RA number on all correspondence concerning your warming unit. Your customer service representative will also send a shipping carton to you at no charge upon request.

Technical Specifications

Physical Characteristics

DIMENSIONS OF WARMING UNIT	13 in. high x 4 in. deep x 7.7 in. wide 33 cm high x 10.2 cm deep x 19.6 cm wide
DIMENSIONS OF TEMPERATURE CONTROLLER	2.5 in. wide x 5.8 in. long 6.4 cm wide x 14.7 cm long
RELATIVE NOISE LEVEL	57.9 dBA
WEIGHT OF WARMING UNIT	7.0 lb; 3.2 kg.
MOUNTING OPTIONS	Wall mount bracket, IV pole clamp, suction wall mount adapter and rail-mount bracket with safety strap.
HOSE	Detachable, flexible, and wipeable. 78 in. long x 1.5 in. wide; 198 cm long x 3.8 cm wide
FILTRATION SYSTEM	Dust filter included.
RECOMMENDED FILTER CHANGE	Change at least every 6 months.

Temperature Characteristics

TEMPERATURE CONTROL	Electronically controlled using integrated circuit sensor.
HEAT GENERATED	1000 BTU/hr (average)
AVERAGE OPERATING TEMPERATURES AT THE END OF THE HOSE	User adjustable from: ambient to 43±3°C (109±5.4°F)
STORAGE/TRANSPORT TEMPERATURE	-20°C to 60°C (-4°F to 140°F) Store all components in a cool, dry place when not in use.
RECOMMENDED OPERATING ENVIRONMENT	• Indoor use • Ambient temperature range of 18°C to 26°C (64°F to 79°F) • Altitude up to 2000m • Maximum, relative humidity up to 90% • Main supply voltage fluctuations up to ±10% of the voltage • Overvoltage category II (of IEC standard 60364-4-443) level of transient overvoltages present in the mains supply • Rated pollution degree of 2

Safety System Characteristics

THERMOSTAT	Independent electronic and heater (electromechanical)
OVERCURRENT PROTECTION	Dual input fused line.
SAFETY FEATURE	Over-temperature protection: color indicator light illuminates, audible alarm sounds, and heater shuts down (blower continues to run).
ALARM SYSTEM	Fault: amber *Fault* indication flashes, alarm sounds.
CERTIFICATIONS	IEC 60601-1; IEC/EN 60601-1-2; UL 60601-1; CAN/CSA-C22.2, No.601.1; EN 55011; EN 80601-2-35.
CLASSIFICATIONS	**MEDICAL — GENERAL MEDICAL EQUIPMENT AS TO ELECTRICAL SHOCK, FIRE AND MECHANICAL HAZARDS ONLY IN ACCORDANCE WITH UL 60601-1; CAN/CSA-C22.2, No.601.1; ANSI/AAMI ES60601-1:2005 CSA-C22.2 No. 60601-1:08; EN 80601-2-35; Control No.4HZ8** Classified under IEC 60601-1 Guidelines (and other national versions of the Guidelines) as Class I, Type BF, Ordinary equipment, Continuous operation. Not suitable for use in the presence of flammable anesthetic mixtures with air or with oxygen or nitrous oxide. Classified by Underwriters Laboratories Inc. with respect to electric shock, fire and mechanical hazards only, in accordance with UL 60601-1, EN 80601-2-35 and in accordance with Canadian/CSA C22.2, No. 601.1. Classified under the Medical Device Directive as a Class IIb device.

Electrical Characteristics

BLOWER MOTOR	Airflow: 7-13 cfm (3.3-6.1 $^{L}/_{S}$)
POWER CONSUMPTION	Peak: 600W, Average: 340W
LEAKAGE CURRENT	Meets IEC 60601-1 and UL 60601-1 requirements
HEATING ELEMENT	480W Resistive
POWER CORD	15-foot, SJT, 3 cond., 15A 4.6 m, HAR, 3 cond., 10A
DEVICE RATINGS	100-120 VAC, 50/60 Hz, 4.6A 220-240 VAC, 50/60 Hz, 2.8 A
FUSES	Fast Acting, 6.0A (120 VAC); 4.0A (220-230 VAC), High Breaking Capacity
TEMPERATURE CONTROLLER CORD	32" from hose collar, 4 cond., Max. voltage: 5V

Maintenance Log

Date	Maintenance Action Performed

Maintenance Log

Date	Maintenance Action Performed

CE 0086

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